

REMARKS

This application has been reviewed in light of the Office Action of March 28, 2005. Claims 1-20 are pending; all claims stand rejected. In response, the Specification is amended and the following remarks are submitted. Reconsideration of this application, as amended, is requested.

I. Rejection under 35 U.S.C. §112, 2nd para.

Claims 1-20 are rejected under 35 USC 112, second paragraph. Applicant traverses this ground of rejection.

Applicant submits that the language pertaining to the ratios is clear as written and is explained at several places in the Specification, e.g., paras. [0018] and [0035]. The claim language of claims 1, 12, and 20 is "the atomic ratio of the amount of the first element [selected from Group 2 or Group 3 of the periodic table] to the amount of the second element [selected from Group 5 of the periodic table] is at least 1:3" (The bracketed portions reflect the antecedent basis inserted from earlier in the claim). Dependent claims 11 and 19 narrow this range, so that "the atomic ratio of the amount of the first element to the amount of the second element is at least 1:1". In expressing a ratio, there is no requirement that one number of the ratio be fixed while the other changes. Both numbers can change, as long as the recited relationship is achieved, or one number can change and the other remain fixed, again as long as the recited relationship is achieved.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

II. Obviousness-Type Double Patent Rejection.

Claims 1, 2, 5-12, and 15-20 are provisionally rejected under the doctrine of obviousness-type double patenting. Applicant traverses this ground of rejection.

Should the rejection become non-provisional, Applicant will respond in full. However, Applicant preliminarily notes that at the very least, the claims of Application No. 09/957,843 do not teach the claim limitation "the atomic ratio of the amount of the first element to the amount of the second element is at least 1:3," as found in each of the rejected claims. The explanation of the provisional rejection relies on "routine experimentation" to supply this limitation (Office Action at page 3, lines 3-5 from bottom of page). As noted in MPEP 2144.05 II B, "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable

might be characterized as routine experimentation.” This mandate, which is supported in the cited MPEP section by citations to the case authority, means that the prior art must first recognize that a particular parameter should be optimized before its optimization is a matter of routine experimentation. If the nature of the invention includes first recognizing that a particular parameter may be optimized to achieve desirable results in the claimed subject matter, then the subsequent optimization cannot be a matter of routine. In this case, the prior art does not recognize that the ratio of the amount of the first element to the amount of the second element is a result effective variable. Accordingly, the double patenting rejection should not be made.

III. Rejections under 35 U.S.C. §103.

A. Rejection over US 2003/0059633.

Claims 1-20 are rejected under 35 USC 103 as unpatentable over Ackerman US 2003/0059633. Applicant traverses this ground of rejection.

The following principle of law applies to all sec. 103 rejections. MPEP 2143.03 provides “To establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).” [emphasis added] That is, to have any expectation of rejecting the claims over a single reference or a combination of references, each limitation must be taught somewhere in the applied prior art. If limitations are not found in any of the applied prior art, the rejection cannot stand. In this case, the single applied prior art reference clearly does not arguably teach some limitations of the claims.

Each of claims 1, 12, and 20 recites in part:

“the atomic ratio of the amount of the first element to the amount of the second element is at least 1:3”

The explanation of the rejection (page 5, last two lines) recognizes that Ackerman does not teach this limitation. In the first two paragraphs on page 6 of the Office Action, “routine experimentation” is asserted, for the reason that “...Ackerman teaches that when mixtures are used, the other requirements set forth in the patent must be met...” The cited reference fails to

teach “the atomic ratio of the amount of the first element to the amount of the second element is at least 1:3”. Neither para. [0034] nor any other location in Ackerman has such a teaching.

As noted in MPEP 2144.05 II B, “A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.” This mandate, which is supported in the cited MPEP section by citations to the case authority, means that the prior art must first recognize that a particular parameter should be optimized before its optimization is a matter of routine experimentation. If the nature of the invention includes first recognizing that a particular parameter may be optimized to achieve desirable results in the claimed subject matter, then the subsequent optimization cannot be a matter of routine. In this case, the prior art does not recognize that the ratio of the amount of the first element to the amount of the second element is a result effective variable. Accordingly, the concept of “routine experimentation” is not applicable here, and the prior art does not teach the limitations of any of the rejected claims.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

B. Rejection over US 6,677,064.

Claims 1-12 and 14-20 are rejected under 35 USC 103 over Subramanian US Patent 6,677,064. Applicant traverses this ground of rejection.

Applicant incorporates the prior discussion of the rejection over Ackerman. The same legal and factual issues apply; the Examiner admits at the last two lines of page 7 of the Office Action that Subramanian does not teach the atomic ratio limitation, relying again on the routine experimentation argument. Subramanian’s teaching at col. 7, lines 10-20 and elsewhere has nothing to do with the recited ratio and fails to suggest the ratio is a result-effective variable.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

C. Rejection over US 6,677,064 in view of US 5,520,516.

Claim 13 is rejected under 35 USC 103 over Subramanian ‘064 in view of Taylor US patent 5,520,516. Applicant traverses this ground of rejection.

Applicant incorporates the prior discussion of the rejection over Subramanian. Subramanian does not teach the limitations of claim 12, the parent claim, and Taylor fails to overcome these deficiencies.

Further, claim 12 recites in part:

“providing a nickel-base superalloy article that is a component of a gas turbine engine;
depositing a bond coat onto an exposed surface of the article; and
producing a thermal barrier coating on an exposed surface of the bond coat...”.

As understood by Applicant, Taylor has no teaching of applying its thermal barrier coating to a nickel-base superalloy having a bond coat thereon. Taylor teaches that its thermal barrier coating is applied directly to the substrate, without a bond coat, except in the case of titanium substrates, see col. 5, lines 40-43.

CONCLUSION

For at least the preceding reasons, Applicant respectfully requests reconsideration of the Application and withdrawal of the outstanding rejections. Applicant respectfully submits that claims are not anticipated by nor rendered obvious by the cited art either alone or in combination and thus, are in condition for allowance. As the claims are not anticipated by nor rendered obvious in view of the applied art, Applicant requests allowance of all of pending claims 1-20 in a timely manner. If the Examiner believes that prosecution of this Application could be expedited by a telephone conference, the Examiner is invited to contact the Applicant's undersigned representative.

This Response has been filed within three (3) months of the mailing date of the Office Action and it is believed that no fees are due with the filing of this paper. In the event that Applicant is mistaken in the calculations, the Commissioner is hereby authorized to deduct any fees determined by the Patent Office to be due from the undersigned's Deposit Account No. 50-1059.

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Respectfully submitted,
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